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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,504	04/24/2001	Gene E. Lightner		5672

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706 SW 296 St
Federal Way, WA 98023

EXAMINER

LANGEL, WAYNE A

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 07/25/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

841504

Applicant(s)

Lightner

Examiner

Langel

Group Art Unit

1754

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

☒ Responsive to communication(s) filed on 6-9-03

☒ This action is FINAL.

- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-15 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-15 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

☐ All ☐ Some* ☐ None of the:

☐ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. _____

☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other _____

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Scott. No distinction is seen between the process disclosed by Scott, and that recited in applicant's claims. Scott discloses a process for hydrogasification of biomass to produce high yields of methane, wherein the gas leaving the gasifier is subjected to steam reforming and then shift reaction to produce hydrogen. (See the Abstract and Figure 1.) Applicant's argument, that Scott teaches hydrogasification of a biomass to produce high yields of methane and presents the well

known process of water gas shift reaction utilizing steam within Figure 1 and claim 8, whereas, within the present invention, a gas containing water vapor and carbon monoxide is subjected to a steam shift reaction, so that a supply of steam is unnecessary, is not convincing, since Scott teaches at column 4, lines 54-57 that the process allows biomass to be converted to either a methane-rich gas or a synthesis gas, using no additional reactants, except water, if insufficient water is present in the biomass feed. Accordingly Scott contemplates a process in which the biomass feed contains sufficient water such that it would not be necessary to add additional water for the water gas shift reaction. In any event, it would be prima facie obvious to add water for the water gas shift reaction of Scott, since it would be within the skill of one of ordinary skill in the art to determine whether a sufficient amount of steam would be present in the gas leaving the steam reformer of Scott for carrying out the water gas shift reaction, and to refrain from adding additional steam if a sufficient amount of steam were present at such point in the process.

Claims 1-15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamaguchi et al. in view of Scott. Yamaguchi et al. disclose a process for steam reforming a pyrolysis gas containing hydrogen, carbon monoxide and dioxide, methane and other hydrocarbons by steam reforming, carbon monoxide conversion

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and/or methanation. (See the Abstract and column 8, lines 33-68.) The difference between the process disclosed by Yamaguchi et al., and that recited in applicant's claims, are that Yamaguchi et al. do not specifically disclose that the carbon monoxide conversion should constitute a water gas shift reaction. It would be prima facie obvious from Scott to employ a water gas shift reaction for the carbon monoxide conversion step of Yamaguchi et al., since Scott discloses a process for hydrogasification of biomass to produce high yields of methanes, wherein the gas leaving the gasifier is subjected to steam reforming and then shift reaction to produce hydrogen. (See the Abstract and Figure 1.) Applicant's argument, that Yamaguchi et al. teaches pyrolysis of solid wastes by a furnace to obtain a gas for fuel, which teachings are devoid of specifying a biomass, is not convincing, since Scott is relied upon to show that a gas containing water vapor, carbon monoxide and hydrocarbons may be provided by pyrolyzing a biomass. (See Figure 1 and column 4, lines 54-57 of Scott.) It would be obvious from Scott that a biomass material could be pyrolyzed in the process of Yamaguchi et al. which would contain sufficient water that the gas following steam reforming would contain water vapor, since Scott suggests at column 4, lines 54-57 that sufficient water may be present in the biomass feed such that it would not be necessary to add additional water to the process.

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Applicant's amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne A. Langel whose telephone number is (703) 308-0248. The examiner can normally be reached on Monday through Friday from 8 A.M. to 3:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can

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be reached on (703) 308-3837. The fax phone number for this Group is (703) 305-7718.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2351.

WAL:cdc

July 23, 2003

Wayne A. Langel
WAYNE A. LANGEL
PRIMARY EXAMINER